

**AMENDMENTS TO THE CLAIMS:**

This listing of claims will replace all prior versions and listings of claims in the application:

1-17. (Cancelled)

18. (New) A substrate processing apparatus, comprising:

a cassette mounting table for arranging a plurality of cassettes with substrates therein in a direction perpendicular to a substrate transfer direction;

a transfer chamber in which a linear transfer path is provided along said substrate transfer direction and which is maintained under vacuum conditions;

a plurality of first process chambers which are connected to the transfer chamber via first gate valves and disposed at both sides of the transfer chamber so as to be opposite to one another via the transfer chamber, and in which a first process disposes a substrate;

a plurality of second process chambers which are connected to the transfer chamber via second gate valves and disposed at both sides of the transfer chamber so as to be opposite to one another via the transfer chamber in the vicinity of the first process chambers, and in which a second process disposes a substrate that has finished the first process;

a plurality of load lock chambers which are connected to the transfer chamber via third gate valves and disposed at both sides of the transfer chamber so as to be

opposite to one another via the transfer chamber, and by which substrates are supplied to the transfer chamber under vacuum conditions; and

a transfer mechanism which is provided in the transfer chamber so as to be connected to the linear transfer path under linearly moveable conditions and includes two jointed-arm mechanisms configured to receive substrates from the plurality of load lock chambers, translate the substrates along the linear transfer path, and carry the substrates simultaneously into and out of one or more of the first process chambers and the second process chambers in synchronization.

19. (New) The substrate processing apparatus as set forth in claim 18, wherein the two jointed-arm mechanisms share a common motor and a common arm;

wherein each of the two jointed-arm mechanisms includes a respective first arm which is connected at a first end to a corresponding end of the common arm, and a respective supporter which is connected to a second end of the respective first arm; and

wherein the two jointed-arm mechanisms are operated in synchronization by driving the common arm with the common motor.

20. (New) The substrate processing apparatus as set forth in claim 18, further comprising:

a plurality of detecting mechanisms having photosensors which are stationed in the plurality of second process chambers respectively, and which are configured to

detect positional displacements from proper positions of substrates to be transferred into the plurality of second process chambers; and

a correcting mechanism which is configured to correct the positional displacements of the substrates based on results of detections by the plurality of detecting mechanisms.